

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number  
**WO 2005/069616 A1**

(51) International Patent Classification<sup>7</sup>: **H04N 7/015**

(21) International Application Number:  
PCT/KR2004/003559

(22) International Filing Date:  
31 December 2004 (31.12.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2004-0003741 19 January 2004 (19.01.2004) KR

[KR/KR]; 146-14 Sinseong-dong, Yuseong-gu, Daejeon 305-345 (KR). LEE, Yong-Tae [KR/KR]; #203-1307 Mokryeon Apt., Dunsan 1-dong, Seo-gu, Daejeon 302-771 (KR). EUM, Ho-Min [KR/KR]; 145-13, Sinseong-dong, Yuseong-gu, Daejeon 305-804 (KR). KIM, Heung-Mook [KR/KR]; ETRI Dorm. Gajeong-dong, Yuseong-gu, Daejeon 305-350 (KR). SEO, Jae-Hyun [KR/KR]; #102-1102 Hanul Apt., Sinseong-dong, Yuseong-gu, Daejeon 305-707 (KR). KIM, Seung-Won [KR/KR]; #105-202 Gukhwa Dongseong Apt. Samcheon-dong, Seo-gu, Daejeon 302-782 (KR). LEE, Soo-In [KR/KR]; #106-606 Clover Apt., Dunsan-dong, Seo-gu, Daejeon 302-772 (KR).

(74) Agent: SHINSUNG PATENT FIRM; 2F, Line Bldg., 823-30, Yeoksam-dong, Kangnam-ku, Seoul 135-080 (KR).

(71) Applicant (for all designated States except US): Electronics and Telecommunications Research Institute [KR/KR]; 161, Gajeong-dong, Yuseong-gu, Daejeon 305-350 (KR).

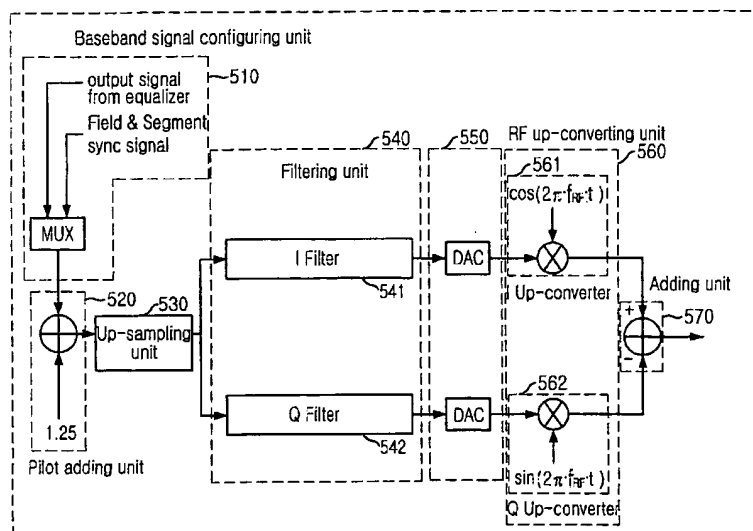
(72) Inventors; and

(75) Inventors/Applicants (for US only): PARK, Sung-Ik

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH,

[Continued on next page]

(54) Title: APPARATUS AND METHOD FOR MODULATING OF ON-CHANNEL REPEATER



(57) Abstract: Provided is a modulating apparatus and method of an on-channel repeater. An object of the present invention is to provide a modulating apparatus of an on-channel repeater for reducing time delay by configuring and up-sampling a baseband signal, filtering the up-sampled baseband signal with an Equi-Ripple (ER) filter or in a window method, and converting the filtered baseband signal into an RF signal. The modulating apparatus includes: a baseband signal configuring unit for configuring a baseband signal by combining an input field and a segment sync signal; a pilot adding unit for adding a pilot signal to the baseband signal; a filtering unit for filtering the baseband signal with the pilot signal; and an RF up-converting unit for up-converting the filtered signal into an RF signal. The present invention is used to form an on-channel repeating network in a transmitting system including a digital TV broadcasting system.